

**REMARKS**

Reconsideration and withdrawal of the rejections of the application are requested in view of these amendments and remarks, which place the application into condition for allowance.

Applicants thank the Examiner for indicating that the restriction between Group III and elected Group I, the objection to the specification, the previous objection to the claims, the previous rejections under Section 112, the previous rejection under Section 102, and the provisional rejections on the ground of nonstatutory obviousness-type double patenting, have all been withdrawn.

**I. STATUS OF CLAIMS AND FORMAL MATTERS**

Claims 21-28, 30, and 33-38 are under consideration in this application. Claim 29 is newly cancelled, and claims 21-23, 25-28, 30, and 33-38 are amended.

Support for the recitation of “wherein the modulator of Notch signalling comprises a protein or polypeptide comprising a Notch ligand Delta-Serrate-Lag2 (DSL) domain and at least one epidermal growth factor-like (EGF-like) domain” in claims 21-23, 25-27, 33-35, and 37 can be found, for instance, on page 12, lines 5-8, and in claim 28 and former claim 29. Support for the amendment to claim 28 can be found, for example, on page 12, lines 5-8, and in former claim 29. Further, claims 30 and 38 are amended to remove dependency from a cancelled claim, and claims 33, 34, 36, 37 are amended to recite the full name of abbreviated terms. No new matter is added.

The claims are patentably distinct over the prior art and that these claims are and were in full compliance with the requirements of 35 U.S.C. § 112. The amendments to the claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §§ 101, 102, 103 or 112; but simply for clarification and to round out the scope of protection to which Applicants are entitled.

**Objection to the Claims**

Claims 33, 34, 36, and 37 were objected to for reciting acronyms without first defining what the acronyms represent. In response, Applicants amend the claims to properly define the recited acronyms. Accordingly, reconsideration and withdrawal of the objection to the claims are requested.

## II. THE REJECTIONS UNDER 35 U.S.C. § 112 ARE OVERCOME

Claims 21-30 and 33-38 were rejected under the first paragraph of Section 112 as allegedly failing to comply with the enablement requirement. The rejection is traversed.

Initially, Applicants draw attention to the instant claims, wherein claims 21-23, 25-27, 33-35, and 37 recite that the modulator of Notch signalling “comprises a protein or polypeptide comprising a Notch ligand Delta-Serrate-Lag2 (DSL) domain and at least one epidermal growth factor-like (EGF-like) domain.” Hence, the instant claims clarify the modulator of the Notch signalling pathway of the claimed invention, thereby modifying the breadth of the claims. Applicants assert that, in light of the instant claim scope, the skilled artisan can apply the modulators and perform the claimed invention without undue experimentation.

Applicants also point out that the specification provides substantial guidance for the instant modulators of the claimed invention. For instance, the specification describes the Notch ligand DSL domain (see, e.g., page 37, line 46 – page 39, line 22) and the Notch ligand EGF-like domain (see, e.g., page 39, line 24 – page 41, line 34). Further, the working examples, such as Examples 2, 4, 6, 10, and 14, demonstrate a modulator of Notch signalling pathway comprising or encoding a Notch ligand DSL domain and at least one EGF-like domain.

Applicants reiterate that determining the optimal dosage, duration, and administration route of the cells and modulators as claimed does not warrant undue experimentation. MPEP Section 2164.06 states that “[t]he test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.” *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) (citing *In re Angstadt*, 537 F.2d 489, 502-04, 190 USPQ 214, 217-19 (CCPA 1976)). One skilled in the art can determine the dosages and routes of administration as such work is routine, especially in light of the guidance provided in the specification (see, e.g., page 92, lines 1-32). Similarly, the skilled artisan can apply the teachings of preparing the cells (see, e.g., the specification, page 92, line 1 – page 93, line 19) to perform the steps of the invention without undue experimentation.

Hence, in consideration of the scope of the instant claims, and the substantial guidance and working examples provided in the specification, claims 21-30 and 33-38 are enabled by the specification. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph are requested.

### **III. THE REJECTIONS UNDER 35 U.S.C. § 102 ARE OVERCOME**

Initially, Applicants respectfully point out that “[a] rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference.” *In re Buszard* 504 F.3d 1364, 1366 (Fed. Cir. 2007) (citing *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001) (“Invalidity on the ground of ‘anticipation’ requires lack of novelty of the invention as claimed . . . that is, all of the elements and limitations of the claim must be shown in a single prior reference, arranged as in the claim.”)). With this in mind, Applicants assert that none of the cited references anticipate the claimed invention, as the references do not teach each and every limitation of the instant claims.

#### **Section 102 in view of Lamb1**

Claims 25, 28-30, and 33-38 were rejected under Section 102(b) as allegedly being anticipated by Lamb *et al.* (WO 98/20142) (“Lamb1”). Applicants traverse the rejection and assert that Lamb1 fails to anticipate the claimed invention.

Lamb1 does not teach each and every limitation of the instant claims, which recites that the modulator of Notch signalling is modifying cytokine expression. By contrast, Lamb 1 indicates that the treatment of conditions using Notch ligands is through other mechanisms, such as by inhibiting the responses of antigen primed lymphocytes (see, *e.g.*, Example 4), preventing antigen priming of T lymphocytes (see, *e.g.*, Example 5), blocking or preventing T cell responses (see, *e.g.*, Examples 7 and 8) or generating regulatory T cells 9 (see, *e.g.*, Example 9). Therefore, Lamb1 does not teach modifying cytokine expression in the manner of the instant claims and thus fails to teach each and every limitation of the instant claims.

#### **Section 102 in view of Lamb2**

Claims 21-24, 26, and 27 were rejected under Section 102(b) as allegedly being anticipated by Lamb *et al.* (WO 00/36089) (“Lamb2”). Applicants traverse the rejection and assert that Lamb2 fails to anticipate the claimed invention.

Lamb2 does not teach each and every limitation of the instant claims, which disclose a modulator of Notch signalling comprising a protein or polypeptide comprising a Notch ligand DSL domain and at least one EGF-like domain. In contrast, Lamb2 relates to the use of agents which upregulate of endogenous Notch or Notch ligand in antigen presenting cells and lymphocytes (see, *e.g.*, Lamb2, page 2, lines 8-10; Abstract). Lamb2 is silent as to administering

a modulator comprising DSL and EGF domains as recited in the instant claims. Thus, Lamb2 does not teach each and every limitation of the instant claims, and thereby fails to anticipate the present invention.

Accordingly, reconsideration and withdrawal of the Section 102 rejections are respectfully requested.

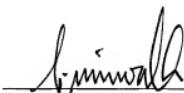
**CONCLUSION**

This application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date, and, the Examiner is invited to telephonically contact the undersigned to advance prosecution.

Respectfully submitted,

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